

REMARKS

Reconsideration of this application, as amended, is respectfully requested.

This response is submitted in response to the Final Office Action mailed April 10, 2003, to request reconsideration of the rejection of claims 1, 3, 5, 7, 9, 11, 13, 15, 17, 22 and 24 as set forth herein. In the event the Examiner determines that the foregoing amendments do not place the case in condition for allowance, it is respectfully requested that the above amendments be entered to place the claims in better form for consideration on appeal.

Initially, Applicants would like to thank the Examiner for indicating the allowability of claims 17, 18 and 23 if rewritten in independent form to include all of the limitations of the base claim and any intervening claims.

In the Office Action, the Examiner objects to the title of the invention, stating that it is not descriptive of the invention, and requires one clearly indicative of the invention. In response, Applicants have amended the title to "SEMICONDUCTOR DEVICE IN A RESIN SEALED PACKAGE WITH A RADIATING PLATE AND A MANUFACTURING METHOD THEREOF". Accordingly, Applicants respectfully request that the objection to the title be withdrawn.

The Examiner rejects claims 1-16, 22, 24 and 25. Claims 1-16 are rejected under 35 U.S.C. §103(a) as being allegedly unpatentable over U.S. Patent No. 5,270,262 to Switky et al. (hereinafter "Switky") in view of U.S. Patent No. 5,828,126 to Thomas (hereinafter "Thomas"). Claim 22 is rejected under 35 U.S.C. §103(a) as being allegedly unpatentable over Switky in view of Thomas, and further in view of U.S. Patent No. 6,396,133 to James (hereinafter "James"). Claims 24-25 are rejected under 35 U.S.C. §103(a) as being allegedly unpatentable over Switky in view of Thomas, and further in view of U.S. Patent No. 5,739,582 to ElHatem et

al. (hereinafter "ElHatem"). In response, independent claim 1 has been amended to clarify its distinguishing features. Additionally, independent claim 2, and claims 4, 6, 8, 10, 12, 14, 16, 18, 23 and 25 which were dependent on claim 2, have been cancelled.

Regarding independent claim 1, the Examiner states that Switky discloses a semiconductor device comprising a radiating plate, a semiconductor chip bonded onto the radiating plate, a resin wall bonded at the lower end of the radiating plate, which retains the conductive member and surrounds the circumference of the chip, a lid bonded to the upper end of the resin wall, and an inner lead portion of the conductive member mounted on a base seat part formed as part of the resin wall, where the semiconductor chip is sealed in a space enclosed by the resin wall, radiating plate, and the lid. The Examiner concedes that Switky fails to disclose a resin lid; however, the Examiner states that Thomas discloses a resin lid, and that the combination of references renders the present invention obvious.

Claim 1 has been amended to recite that the semiconductor chip is bonded on one side of the radiating plate and that the conductive member is extended through a lower end of the resin wall and retained by the resin wall, which is electrically connected to the semiconductor chip. Additionally, claim 1 recites that the lower end of the resin wall in a first area and in the vicinity thereof is bonded to the one side and an end face of the radiating plate, and the lower end of the resin wall in a second area other than the first area and the vicinity thereof is bonded to only the one side of the radiating plate.

Support for the amendment is found throughout the specification; specifically, on pages 18-20, and in Figs. 3-5. Fig. 5 clearly shows that the lower end of the resin wall 40 in a first area is bonded to one side of the radiating plate 20 and an end face of the radiating plate 20, while the

lower end of the resin wall 40 in a second area is bonded to only the same one side of the radiating plate 20. The resin lid 50 is bonded to an upper side of the resin wall 40.

Therefore, Applicants respectfully submit that no new matter has been added by way of the amendment to the claims. Additionally, the amendment to independent claim 1 simply clarifies the location of the lower end of the resin wall with respect to the radiating plate; it does not add any new elements to the claim. Therefore, Applicants respectfully submit that no new issues are raised by way of the amendment to claim 1. As such, Applicants respectfully request entry of the amendment after a final rejection.

Regarding claims 7, 9 and 11, the Examiner states that Switky discloses first holes in the outside positions of the resin wall on the conductive member, and second holes in the region extending through the resin wall of the conductive member, wherein the first holes overlap the space area between the second holes. In the response to the previous Office Action, Applicants stated that claim 7 recites holes on the outside of the resin wall, and that the conductive member in Switky (item 13) fails to disclose any holes or any other means for preventing melting solder or other liquid from reaching the resin wall or inner package.

The Examiner, in the present Office Action, states that the features relied on by Applicants are not recited in the claims. However, Applicants are not arguing the limitation of “any other means for preventing solder from reaching the resin wall”, but on the actual first holes on the outside of the resin wall and located on the conductive member. Switky, in Figs. 8-9, cited by the Examiner, does not show any first or second holes on the actual leads 13. The present invention clearly shows first holes 31 and second holes 32 located on the conductive member 30 in Fig. 3, which is not disclosed by Switky as alleged by the Examiner.

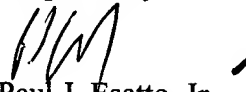
Regarding claim 22, the Examiner states that James discloses a radiating plate that has end portions formed integrally at both ends of a center portion of a radiating plate, the lower end of the resin wall bonded to the center portion, and the end portions exposed through the resin wall, citing element 44 in Figs. 3-5.

However, claim 22 is directed to a lower end of a resin wall 40 being mounted to a center portion of a radiating plate. Fig. 4 shows element 44 (external portion of a paddle 26) being mounted in between the resin wall 43, and additionally bending or crimping the external portion 44 to define a spatial gap 46 between the resin wall 43 and the external portion 44. Thus, James does not disclose a resin wall bonded to a center portion of a radiating plate. James fails to disclose a radiating plate at all.

Accordingly, Applicants respectfully submit that the references cited by the Examiner, individually or in combination, fail to render the present invention obvious. Therefore, Applicants respectfully request that the §103(a) rejections of the claims be withdrawn, and respectfully request allowance of claims 1, 3, 5, 7, 9, 11, 13, 15, 17, 22 and 24.

In view of the above, it is respectfully submitted that this application is in condition for allowance. Accordingly, it is respectfully requested that this application be allowed and a Notice of Allowance issued. If the Examiner believes that a telephone conference with Applicants' attorney would be advantageous to the disposition of this case, the Examiner is requested to telephone the undersigned.

Respectfully submitted,


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